

4. (Amended) The roller of claim 3, wherein [said roller has a roller length,] each said resilient member having a radial rigidity, said radial rigidity of each said resilient member varying over said roller length.

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A 2
REMARKS

Claims 1-29 are pending and rejected. Claims 1, 3 and 4 have been amended hereby.

Reconsideration and allowance of claims 1-29 are respectfully requested.

Responsive to the rejection of claims 1-8, 10-15, 17, 18, 22 and 24-29 under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 3,750,246 (Pessen), Applicants have amended claims 1, 3 and 4, and submit that claims 1-8, 10-15, 17, 18, 22 and 24-29 are now in condition for allowance.

Pessen discloses a composite roll A including a metal core member B and a metal outer cylindrical shell C (Figs. 1 and 2). The inner peripheral surface of shell C is cylindrical so that outer peripheral surface portions 24 and 26 of core member B diverge away from the inner peripheral surface of shell C when proceeding from central portion 22 toward opposite end portions 12 and 14. The annular spaces are filled with elastomeric material D, which is bonded to the inner peripheral surface of shell C and peripheral surfaces 24 and 26 of core member B (column 4, lines 26-58). Although pouring will work, using a vacuum arrangement is the optimum arrangement for completely filling the annular spaces with elastomeric material and insuring the complete and uniform distribution of elastomeric material D throughout the annular spaces (column 6, lines 23-30; column 8, lines 55-66; and column 10, lines 34-40).

In contrast, claim 1, as amended, recites in part:

a base body being substantially cylindrical; (and)

at least one resilient member ... having a radial rigidity ... varying over said roller length;

(Emphasis added.) Applicants submit that such an invention is neither taught, disclosed nor suggested by any of the cited references, alone or in combination, and includes distinct advantages thereover.

Pessen discloses a composite roll including a metal core member B and a metal outer cylindrical shell C. The inner peripheral surface of shell C is cylindrical so that outer peripheral surface portions 24 and 26 of core member B diverge away from the inner peripheral surface of shell C when proceeding from central portion 22 toward opposite end portions 12 and 14. However, Pessen fails to teach or suggest a base body being substantially cylindrical and at least one resilient member having a radial rigidity varying over the roller length, as recited in part in claim 1, as amended.

The present invention as set forth in claim 1, as amended, has distinct advantages over the cited references in that the base roll is substantially cylindrical, which is easier to construct than the conically shaped base roll of Pessen. Further, the rigidity of the resilient members vary over the length of the roll, thereby supporting the load of the web in a manner corresponding to the rigidity. Accordingly, Applicants submit that claim 1, and claims 2 and 5-8, 10-15, 17, 18, 22 and 24-29 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 3, as amended, recites in part:

a base body varying in diameter from said mid-roller area to each of said two roller ends in a substantially parabolic manner;

(Emphasis added.) Applicants submit that such an invention is neither taught, disclosed nor suggested by any of the cited references, alone or in combination, and includes distinct advantages thereover.

Pessen discloses a composite roll including a metal core member B and a metal outer cylindrical shell C. The inner peripheral surface of shell C is cylindrical so that outer peripheral surface portions 24 and 26 of core member B diverge away from the inner peripheral surface of shell C when proceeding from central portion 22 toward opposite end portions 12 and 14. However, Pessen fails to teach or suggest a base body varying in diameter from a mid-roller area to each of the two roller ends in a substantially parabolic manner, as recited in part in claim 3, as amended.

The present invention as set forth in claim 3, as amended, has distinct advantages over the cited references in that the diameter of the base roll varies in a substantially parabolic manner, which mirrors the needed support from the base roll to the resilient material, thereby supporting the load of the web in a manner corresponding to the weight of the web. Accordingly, Applicants submit that claim 3 and claim 4 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 1-3, 5-9, 18, 19 and 21-29 under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 6,409,644 (Van Haag), Applicants have amended claims 1 and 3, and submit that claims 1-3, 5-9, 18, 19 and 21-29 are now in condition for allowance.

Van Haag discloses a compensation roll 1 with a roll jacket 2 that is supported on a carrier 3 by way of a hydraulic support element arrangement 4 (column 8, lines 56-59). Roll jacket 2 can be moved upwardly and downwardly with respect to carrier 3. A bearing ring 7 is movable with respect to carrier 3 and the movement is controlled by support element arrangement 4. Bearing ring 7 has four evenly distributed cylinder bores 9, in each of which a support element 10 is arranged (column 9, lines 3-20). Support elements 10 are supported on their corresponding bearing ring 7 by way of springs 61 or 62 (column 10, lines 46-50).

In contrast, claim 1, as amended, recites in part:

a base body being substantially cylindrical; (and)

at least one resilient member ... having a radial rigidity ... varying over said roller length;

(Emphasis added.) Applicants submit that such an invention is neither taught, disclosed nor suggested by any of the cited references, alone or in combination, and includes distinct advantages thereover.

Van Haag discloses a compensation roll 1 with a roll jacket 2 that is supported on a carrier 3 by way of a hydraulic support element arrangement 4. A bearing ring 7 is movable with respect to carrier 3 and the movement is controlled by support element arrangement 4. Bearing ring 7 has four evenly distributed cylinder bores 9, in each of which a support element 10 is arranged. Support elements 10 are supported on their corresponding bearing ring 7 by way of springs 61 or 62. However, Van Haag fails to teach or suggest a base body being substantially cylindrical and at least one resilient member having a radial rigidity varying over the roller length, as recited in part in claim 1, as amended.

The present invention as set forth in claim 1, as amended, has distinct advantages over the cited references in that the base roll is substantially cylindrical, which is easier to construct than ~~the sectioned base roll of Van Haag~~. Further, the rigidity of the resilient members vary over the length of the roll, thereby supporting the load of the web in a manner corresponding to the rigidity. Accordingly, Applicants submit that claim 1, and claims 2, 5-9, 18, 19 and 21-29 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 3, as amended, recites in part:

a base body varying in diameter from said mid-roller area to each of said two roller ends in a substantially parabolic manner;

(Emphasis added.) Applicants submit that such an invention is neither taught, disclosed nor suggested by any of the cited references, alone or in combination, and includes distinct advantages thereover.

Van Haag discloses a compensation roll 1 with a roll jacket 2 that is supported on a carrier 3 by way of a hydraulic support element arrangement 4. A bearing ring 7 is movable with respect to carrier 3 and the movement is controlled by support element arrangement 4. Bearing ring 7 has four evenly distributed cylinder bores 9, in each of which a support element 10 is arranged. Support elements 10 are supported on their corresponding bearing ring 7 by way of springs 61 or 62. However, Van Haag fails to teach or suggest a base body varying in diameter from a mid-roller area to each of the two roller ends in a substantially parabolic manner, as recited in part in claim 3, as amended.

The present invention as set forth in claim 3, as amended, has distinct advantages over the cited references in that the diameter of the base roll varies in a substantially parabolic manner, which mirrors the needed support from the base roll to the resilient material, thereby supporting the load of the web in a manner corresponding to the weight of the web. Accordingly, Applicants submit that claim 3 and claim 4 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Claims 9 and 16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pessen in view of U.S. Patent No. 2,741,014 (Hubbard). However, claims 9 and 16 depend from claim 1, and claim 1 has been placed in condition for allowance for the reasons given above. Accordingly, Applicants submit that claims 9 and 16 are in condition for allowance, which is hereby respectfully requested.

Claim 20 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Van Haag. However, claim 20 depends from claim 1, and claim 1 has been placed in condition for allowance for the reasons given above. Accordingly, Applicants submit that claim 20 is in condition for allowance, which is hereby respectfully requested.

Claim 23 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pessen in view of U.S. Patent No. 619,496 (Munsey). However, claim 23 depends from claim 1, and claim 1 has been placed in condition for allowance for the reasons given above. Accordingly, Applicants submit that claim 23 is in condition for allowance, which is hereby respectfully requested.

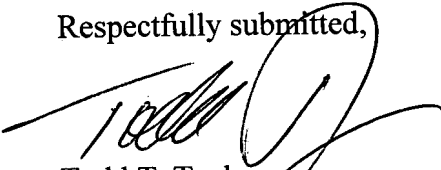
Claims 19-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pessen in view of U.S. Patent No. 4,453,299 (Hemmi). However, claims 19-21 depend from claim 1, and claim 1 has been placed in condition for allowance for the reasons given above. Accordingly, Applicants submit that claims 19-21 are in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,


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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, on: February 19, 2003.

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February 19, 2003

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ATTACHMENT A:
MARKED-UP COPY SHOWING AMENDMENTS

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IN THE CLAIMS

1. (Amended) A roller for winding of a material web thereon, said roller having two roller ends and a mid-roller area, said roller having a maximum winding diameter associated therewith, said roller comprising:

a base body being substantially cylindrical; [^]

at least one resilient member, said at least one resilient member being at least one of a resilient layer applied to at least sections of said body and at least one resilient element positioned on said base body, said at least one resilient member being positioned and configured so as to make said roller radially more resilient near each of said roller ends than in said mid-roller area in order to at least partially compensate for a deflection of said base body at the maximum winding diameter, said roller has a roller length, each said resilient member having a radial rigidity, said radial rigidity of each said resilient member varying over said roller length; and

a circumferential surface positioned over said base body, said circumferential surface contacting the material web, said circumferential surface being one of integral with and separate from said at least one resilient member.

[^] 3. (Amended) [The] A roller [of claim 1, wherein] for winding of a material web thereon, said roller having two roller ends and a mid-roller area, said roller having a maximum winding diameter associated therewith, said roller comprising:

a base body varying in diameter from said mid-roller area to each of said two roller ends in a substantially parabolic manner;

at least one resilient member, said at least one resilient member being at least one of a resilient layer applied to at least sections of said body and at least one resilient element positioned on said base body, said at least one resilient member being positioned and configured so as to make said roller radially more resilient near each of said roller ends than in said mid-roller area in order to at least partially compensate for a deflection of said base body at the maximum winding diameter, said roller [has] having a roller axis, said roller and said roller axis having a roller length, each said resilient member having a radial thickness, said radial thickness of each said resilient member varying over said roller length and said roller axis; and

a circumferential surface positioned over said base body, said circumferential surface contacting the material web, said circumferential surface being one of integral with and separate from said at least one resilient member.

4. (Amended) The roller of claim [1] 3, wherein [said roller has a roller length,] each said resilient member having a radial rigidity, said radial rigidity of each said resilient member varying over said roller length.